

No.: Y73-107INS

Title: Lockout/Tagout for Personnel Protection

Rev. Date: 6/03/02

The purpose of this instruction is to provide a system of hazardous energy control for the protection of personnel. This instruction provides directions for the identification, isolation and control of equipment and systems for personnel protection.

A hard copy of this document is valid only until the document revision number has changed on the web. The hard copy should be dated and signed the day it is printed. If you continue working from the hard copy, you should verify its accuracy on the web.

Date Printed: _____

Verifier: _____

BWXT Y-12, L.L.C.
Management Requirements

Number: Y73-107INS
Rev. Date: 6/03/02
Supersedes: Y73-107
Page: 1 of 37

BWXT Y-12
Management Control

Subject: Lockout/Tagout for Personnel Protection

[Audrey Fowler]
Instruction Written By

9/3/02
Date

Approvals; [Approval Signatures and Dates on File]

[C. R. Ferguson]
Functional Area Manager

9/3/02
Date

[Leslie L. Reed]
Executive Manager

9/5/02
Date

[M. J. Keyser]
Requirements and Issues Management

9/5/02
Date

November 1, 2002
Effective Date

This document has been reviewed by an
Authorized Derivative Classifier and UCNI
Reviewing Official has been determined
to be UNCLASSIFIED and contains no
UNCL. This review does not constitute
clearance for public release.

L. Wayne McMahon
Name

9/4/02
Date

Subject:	Lockout/Tagout for Personnel Protection
-----------------	--

REVISION LOG

Revision Date	Revision Description	Affected Pages
06/03/02	DM/R # 02-ESH-12, intent change	All
	Clarify steps related to Single Source Lockout/Tagout.	6, 9, 14, 15, 26
	Clarify use of satellite lockboxes. Identifies responsibilities for Issuing Authority and Service Supervisor.	12, 15, 19-22, 24
	Added additional steps to included construction activities.	10,12,13,19, 21-25, 36
	Identifies steps for BWXT Y-12, L.L.C. personnel conducting work for another company/contractor that requires hazardous energy control.	6, 37
	Included Performance Evaluation requirements for Issuing Authority, Service Supervisor, and Authorized Employee.	7
	Clarify Record Retention requirements.	8
	Add Appendix P, "Working for Other Companies/Contractors."	37
	Editorial corrections throughout instruction.	All
	Implement Web-based forms: Appendix C, Page 1; Appendix J; Appendix K; Appendix L, Page 2.	14, 28, 29, 31
06/01/01	DM/R # 01-ESH-040, non-intent change	
11/01/00	Blue Sheet accepted with noted changes	
04/26/99	PM/R-99-ESH-15	
03/01/99	PM/R-99-ESH-11	
12/14/98	PM/R-99-ESH-03	
05/06/98	Complete revision to procedure.	
	On Record.	

Subject:	Lockout/Tagout for Personnel Protection
----------	---

TABLE OF CONTENTS

PURPOSE	4
APPLIES TO	4
INFORMATION	5
OTHER DOCUMENTS NEEDED	5
WHAT TO DO.....	5
A. Prerequisites	5
B. Single Source Lockout/Tagout	6
C. Lockout/Tagout Permit.....	7
D. Periodic Inspection	7
E. Lockout/Tagout Committee.....	8
F. Lockout/Tagout Training	8
RECORDS.....	9
SOURCE DOCUMENTS.....	9
APPENDIXES.....	9
Appendix A Definitions	10
Appendix B Interfacing with BWXT Y-12, L.L.C. DOE Prime Contractors and/or Subcontractors	13
Appendix C Lockout/Tagout - Single Source.....	14
Appendix D Lockout/Tagout - Permitted.....	17
Appendix E Modifying A Lockout/Tagout Permit	21
Appendix F Temporarily Suspending a Lockout/Tagout Permit.....	23
Appendix G Releasing Lockout/Tagout Permit	25
Appendix H Releasing Protection When Employee Unavailable.....	26
Appendix I Danger - Do Not Operate Tag	27
Appendix J Lockout/Tagout Permit.....	28
Appendix K Lockout/Tagout Permit Continuation Form.....	29
Appendix L Temporary Suspension Tag and Form.....	30
Appendix M Lockout/Tagout Permit Index.....	32
Appendix N Equipment/Job-Specific Lockout/Tagout Permit.....	33
Appendix O Guidance for Lockout/Tagout Walkdowns.....	36
Appendix P Working for Other Companies/Contractors.....	37

Subject: Lockout/Tagout for Personnel Protection

PURPOSE

The purpose of this instruction is to provide a system of hazardous energy control for the protection of personnel. This instruction provides directions for the identification, isolation and control of equipment and systems for personnel protection.

APPLIES TO

This instruction applies to all BWXT Y-12, L.L.C. (BWXT Y-12) personnel who have responsibility for operating, maintaining, and/or servicing equipment and systems, and all other subcontractor personnel at the Y-12 facility who have the responsibility for operating, maintaining, and/or servicing equipment and systems.

The lockout/tagout requirements of this instruction are subject to the following exclusions:

- a. Minor tool changes and adjustments, and other minor servicing activities which take place during normal production operations, when they are routine, repetitive, and integral to the use of the equipment for production are excluded. This exclusion is only applicable when the work is performed using alternative measures, which provide effective protection. (See Title 29, Code of Federal Regulations (CFR) Part 1910, Subpart O, *Machinery and Machine Guarding*.)
- b. Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or startup of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee(s) performing the servicing, maintenance or construction.
- c. Live parts that operate at less than 50 volts to ground need not be de-energized if there will be no increased exposure to electrical burns or to explosion due to electrical arcs.
- d. Live electrical parts that can not be de-energized and locked/tagged out for reasons of increased or additional hazards, or unfeasibility. (Note: In these situations, other safety-related work practices, such as appropriate electrical personal protective equipment (PPE), shall be used to protect employees who may be exposed to the electrical hazards involved as required by 29 CFR 1910, Subpart S, *Electrical*, and Y73-528INS, *Electrical Safety Instruction*. See Y73-116INS, *Personal Protective Equipment Program*, when applicable, for additional information on PPE selection, use, and maintenance.
- e. Hot tap operations involving transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines, are excluded provided (1) continuity of service is essential; (2) shutdown of the system is impractical; (3) documented procedures are followed, and (4) special equipment is used which will provide proven effective protection for employees.
- f. Installations under the exclusive control of electric utilities for the purpose of power generation, transmission and distribution including related equipment for communication or metering are excluded.

Hazardous energy sources associated with electrical systems for the purpose of power generation, transmission, and distribution, as defined by 29 CFR 1910.269, will be controlled by Y18-102, *Power Distribution Work Permit*.

Subject:	Lockout/Tagout for Personnel Protection
----------	---

APPLIES TO (cont.)

Control of equipment for reasons other than personnel protection shall be performed in accordance with Y14-151, *Caution Tagging*.

Only the BWXT Y-12, Environment, Safety and Health Functional Area Manager or his/her designee shall make final interpretations of this instruction. Contact program lead for circumstances not addressed in this instruction.

The Plant Shift Superintendent (PSS), or designee, shall have the authority to serve in an emergency capacity for the Issuing Authority, Service Supervisor, or Authorized Employee, as necessary.

INFORMATION

Isolation points for personnel protection will be protected by red locks and/or DANGER -- DO NOT OPERATE tags. Red locks are to be used for personnel protection only. Except as noted in Appendix H of this instruction, only the employee applying a personal lock may remove it.

**OTHER DOCUMENTS
NEEDED**

Y14-001INS, *Conduct of Operations Manual*
Y14-151, *Caution Tagging*
Y18-102, *Power Distribution Work Permit*
Y73-116INS, *Personal Protective Equipment Program*
Y73-164PD, *Service Subcontract Safety and Health Management Program*
Y73-528INS, *Electrical Safety Instruction*
UCN-17327, *Lockout/Tagout Permit*
UCN-20166, *Lockout/Tagout Permit Continuation*
UCN-20271, *Lockout/Tagout Temporary Suspension*
UCN-20799, *Lockout/Tagout Single Source Criteria*

WHAT TO DO**A. Prerequisites**

NOTE: See Appendix A for definitions.

Equipment Owner

1. Authorize the Issuing Authority when a lockout/tagout is required to control hazardous energy for the protection of personnel.

Issuing Authority

2. IF performing lockout/tagout for personnel protection that is NOT related to servicing, maintenance and construction activities, THEN implement lockout/tagout permit in accordance with Section C and Appendix D.
3. It is imperative that the equipment or systems to be worked on are appropriately isolated from all sources of hazardous energy before work is initiated. A vital part of isolation is the system walkdown. The Issuing Authority is responsible for ensuring that a walkdown is performed utilizing a team comprised of members such as the Service Supervisor, equipment owner, affected craft representatives, job planning representative, or other knowledgeable personnel. The most reliable walkdown method to identify isolation points is to use an up-to-date equipment-specific lockout/tagout permit or procedure, or controlled drawings, which allow for identification of all hazardous energy sources and determination of isolation points. If none of these tools exist, the system configuration, isolation points and controls must be determined using the knowledge and experience of the walkdown team and additional considerations detailed in Appendix O, *Guidance for Lockout/Tagout Walkdowns*. The final assurance that isolation has been achieved is the confirmation of the absence of hazardous energy prior to work commencing.

Subject:	Lockout/Tagout for Personnel Protection
----------	---

A. Prerequisites (cont.)

Issuing Authority
and/or Service
Supervisor(s)

4. IF lockout/tagout is for protection of subcontractor personnel, THEN implement lockout/tagout activity in accordance with Appendix B.
5. IF work is being performed for another contractor/company, then implement lockout/tagout in accordance with Appendix P.
6. IF the work requires control of electrical transmission/distribution equipment (for non-high voltage qualified personnel) then refer to Y18-102, *Power Distribution Work Permit*.

B. Single Source Lockout/Tagout

NOTE: Technical/professional support staff (e.g., Industrial Hygiene [IH]/Radiation Control [Radcon] technicians, engineers, equipment inspectors, etc.) that have received Service Supervisor training and are required to work under the protection of a lockout/tagout may perform the requirements of the Service Supervisor in addition to the Authorized Employee requirements.

Issuing Authority, Service
Supervisor(s), and other
Authorized Employees

1. Utilize Appendix C to implement the requirements for a single source lockout/tagout.

NOTE: Step B.2 does not have to be performed if Appendix C: (1) Table 1, *Single Source Criteria* form, UCN-20799 (3-99), has been previously completed, and (2) the previous review is still available, and (3) conditions have not changed since the previous review.

2. Review Appendix C, Table 1, *Single Source Criteria* form, to determine if a single source lockout can be used.
3. IF work **can** be performed as a single source lockout, THEN complete the following actions:
 - a. Complete the *Single Source Criteria* form and place it in the maintenance or servicing work package or attach it to the skill of craft/standing work package work sheet.
 - b. Perform work under the protection of a single source lockout/tagout in accordance with Appendix C, Table 2.
4. If work **cannot** be performed as a single source lockout, THEN either:
 - a. Perform work under the protection of a lockout/tagout permit in accordance with Section C; or
 - b. Perform work under the protection of an equipment/job-specific lockout/tagout permit in accordance with Appendix N.
5. Utilize Appendix H to remove an employee's personal lock when the employee is not available.

Subject:	Lockout/Tagout for Personnel Protection
----------	---

C. Lockout/Tagout Permit

NOTE: Technical/professional support staff (e.g., IH/Radcon technicians, engineers, equipment inspectors, etc.) that have received Service Supervisor training and are required to work under the protection of a lockout/tagout may perform the requirements of the Service Supervisor in addition to the Authorized Employee requirements.

NOTE: Permit, continuation and temporary suspension forms may be corrected (lined out, initialed, and dated) until the Issuing Authority has signed them.

Issuing Authority,
Service Supervisor(s),
and other Authorized
Employees

1. Utilize Appendix D to issue, accept, and implement the requirements of the lockout/tagout permit.
2. Utilize Appendix E to modify a lockout/tagout permit in order to add or delete an isolation point or change purpose of isolation (i.e., work scope).

NOTE 1: A temporary suspension is **not** to be used to return equipment to operation, which must be done with a modification or release.

NOTE 2: There are no time restrictions associated with the use of a temporary suspension.

3. Utilize Appendix F to perform a temporary suspension to test, adjust, inspect, analyze, troubleshoot, or confirm isolation.
4. Utilize Appendix G to release a lockout/tagout permit.
5. Utilize Appendix H to remove an employee's personal lock when the employee is not available.

D. Periodic Inspections

Environment, Safety
and Health
Organization

1. Perform and document periodic assessment review of the Y-12 Lockout/Tagout Program.

Issuing Authority

2. Conduct and document a periodic assessment review to ensure open permits and single source lockouts are still needed, the protection is still in place, and components are properly aligned. Document the assessment review in the lockout/tagout logbook. The frequency of the assessment review is determined by the organization, but shall not be longer than one year between assessment reviews.

Organization
Manager

3. Establish a schedule for periodic self-assessments, at least annually, of the implementation of lockout/tagout.
4. Document assessment results including any deviations or inadequacies that are identified.
5. Ensure an annual performance evaluation review in the application of this instruction is conducted of Issuing Authorities, Service Supervisor and Authorized Employees. (NOTE: This is included in the annual refresher training module.)

Subject:	Lockout/Tagout for Personnel Protection
----------	---

D. Periodic Inspections (cont.)

Issuing Authority and
Organization
Manager

6. Ensure the necessary corrective actions are implemented to resolve identified deviations or inadequacies.

E. Lockout/Tagout Committee

Industrial Safety
Department
Lockout/Tagout
Program Lead

1. Chairs the Lockout/Tagout Committee.

Lockout/Tagout
Committee

2. Addresses lockout/tagout issues.
3. Assures committee members are knowledgeable in lockout/tagout requirements through education and/or experience, and are involved with lockout/tagout in the performance of their job duties.
4. Advises management of the requirements and training needed to implement this program.
5. Advises management of the need to fund and support the requirements of this program.

F. Lockout/Tagout Training

Organization/Line
Management

1. Ensure appropriate personnel are trained as Authorized Employees, Issuing Authority, and Service Supervisor.

Y-12 Plant Training

2. When requested by line management and/or the Training Working Group, develops, documents, and implements lockout/tagout training modules for all Authorized Employees and initiates appropriate retraining when notified of:
 - a. Annual retraining requirement, to include Issuing Authority, Service Supervisor, and Authorized Employee performance evaluation and review;
 - b. A change in energy control procedures that affects their responsibilities; or,
 - c. Inadequacies in the employee's knowledge or use of energy control procedures.
3. Provide a card to personnel who complete lockout/tagout training for Authorized Employees to certify they have successfully completed training and to identify the date the training expires.
4. Incorporate general information about this instruction into General Employee Training.

Issuing Authority
and/or Service
Supervisor(s)

5. Ensure that employees under their supervision who will implement and work under the protection of lockout/tagout are Authorized Employees.

Subject:	Lockout/Tagout for Personnel Protection
-----------------	---

RECORDS

The following records are generated and maintained according to established BWXT Y-12 records management practices and approved records inventory and disposition schedules.

- | | |
|-----------------------------------|---|
| Division Training Officer | 1. Maintain the training records of the personnel completing lockout/tagout training, including authorized and affected personnel. |
| Issuing Authority | Maintain lockout/tagout permits. Maintain the record one year following permit closure, in accordance with the BWXT Y-12 records management practices. |
| Service Supervisor(s) or Planners | 3. Maintain lockout/tagout checklists. Destroy when no longer needed.
4. Maintain completed Appendix C, Table 1, <i>Single Source Criteria</i> , UCN-20799, in work package, or equivalent (i.e., Steam Plant binder). |

SOURCE DOCUMENTS

- Standards/Requirement Identification Document Chapter 19, *Occupational Safety and Health*, Requirements Unit Identification Document Numbers 6067, 6689, 6690 and 10454;
- Occupational Safety and Health Administration, 29 CFR 1910.147 and 1910.333;
- Department of Energy (DOE) Standard, DOE-STD-1030-96, *Guide to Good Practices for Lockouts and Tagouts*;
- DOE Standard, DOE-STR-1036-93, *Guide to Good Practices for Independent Verification*.

APPENDIXES

- | | |
|--------------------|--|
| Appendix A. | Definitions |
| Appendix B. | Interfacing with BWXT Y-12, L.L.C., DOE Prime Contractors and/or Subcontractors |
| Appendix C. | Lockout/Tagout - Single Source |
| Appendix D. | Lockout/Tagout - Permitted |
| Appendix E. | Modifying a Lockout/Tagout Permit |
| Appendix F. | Temporarily Suspending a Lockout/Tagout Permit |
| Appendix G. | Releasing Lockout/Tagout Permit |
| Appendix H. | Releasing Protection When Employee Unavailable |
| Appendix I. | Danger - Do Not Operate Tag |
| Appendix J. | Lockout/Tagout Permit |
| Appendix K. | Lockout/Tagout Permit Continuation Form |
| Appendix L. | Temporary Suspension Tag and Form |
| Appendix M. | Lockout/Tagout Permit Index, Example |
| Appendix N. | Equipment/Job-Specific Lockout/Tagout Permit |
| Appendix O. | Guidance for Lockout/Tagout Walkdowns |
| Appendix P. | Working for Other Companies/Contractors |

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX A
DEFINITIONS
Page 1 of 3

AFFECTED EMPLOYEE - A person whose job requires him/her to operate or use a machine or equipment on which lockout/tagout is being performed, or whose job requires him/her to work in an area in which lockout/tagout is being performed, but who is not working under the protection of the lockout/tagout.

AUTHORIZED EMPLOYEE - A person who locks out or tags out machines or equipment for personnel protection. Qualification requirements include: completion of lockout/tagout training; and appropriate knowledge of facility processes, systems or associated hazards to conduct assigned duties related to this instruction. This includes the Issuing Authority, Service Supervisor(s), maintenance workers, and anyone else who applies or works under the protection of lockout/tagout. Authorized Employees shall be able to recognize applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

CONFIRM ISOLATION - The act of checking to ensure the system is isolated and cannot be reenergized. Confirming isolation may involve such activities as physically verifying isolation by voltage testing electrical systems; observing position of isolation point, such as open-vent, drain valves, or electrical disconnects; or operating push buttons, selector switches, other control circuit devices, etc., which are not locked or tagged out.

CONSTRUCTION REQUESTING SUPERVISOR (RS) – A construction person who has appropriate knowledge of the construction project and coordinates lockout/tagout requests with the designated construction Service Supervisor. The requesting supervisor may be a construction superintendent, construction field engineer, subcontract technical representative, authorized individual or his/her designee. Qualification requirements include: completion of Authorized Employee lockout/tagout training or equivalent, appropriate knowledge of facility processes, systems and associated hazards, and knowledge of how to confirm isolation.

DEPARTMENT LOCKS - Red locks assigned to a department that are used to control the initial isolation of control points and lockboxes under the control of an Issuing Authority or Service Supervisor. Each lock or series of locks will be controlled by a single, unique key under the control of the Issuing Authority, Service Supervisor or in a lockbox. The locks shall be identified with the department or division name and/or number.

ENERGY ISOLATION DEVICE - A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy.

EQUIPMENT OWNER- Person responsible for the equipment needing to be locked/tagged out for personnel protection.

HAZARDOUS ENERGY - Latent and residual energy including electrical, hydraulic, thermal, pneumatic, mechanical, chemical, radiation from radiation generating machines, toxic, and other potentially hazardous sources which may result in an employee injury or illness if released. (NOTE: Potential hazards will be evaluated on a case-by-case basis during pre-job planning to identify appropriate controls and positive protection, as necessary. Some energy sources may be deemed as non-hazardous in one situation and hazardous in another. For example: A one-inch water line under 50 pounds per square inch pressure may be deemed as non-hazardous under some conditions, but may be classified as hazardous and require lockout/tagout when working at an elevated surface or around enriched uranium.)

INDEPENDENT VERIFICATION – The act of checking, by a separate qualified person physically separated by time and distance from the initial operator/positioner, that a given operation, or the position of a component, conforms to established criteria. Guidance for the need for independent verification can be found in Y14-001INS, *Conduct of Operations Manual*. Independent verification is required for Grade 1 and Grade 2 systems, and other equipment as deemed necessary by the Issuing Authority or equipment owner. Specific training is required for employees conducting independent verification.

Subject: Lockout/Tagout for Personnel Protection

APPENDIX A (cont.)**Page 2 of 3**

ISSUING AUTHORITY - An individual, designated by the organization manager, who has jurisdiction over systems or equipment that require lockout/tagout. Qualification requirements include: completion of lockout/tagout training; knowledge of facility processes and systems and associated hazards; understanding of how to confirm isolation; and knowledge of when independent verification is required. In those areas where multiple issuing authorities have been appointed, such as shift supervisors, the Issuing Authority on duty shall have the authority to authorize the release of permits and the removal of system/department locks which were issued by other issuing authorities in that position.

ISSUING AUTHORITY LOCKBOX - A fixed or portable device used to secure lockout device keys and/or tagout device tabs during the course of the lockout/tagout and is under the control of the Issuing Authority.

LOCKABLE - An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

LOCKBOX - A fixed or portable device used to secure lockout device keys and/or tagout device tabs during the course of the lockout/tagout. Lockboxes shall be of a design such that keys and tear-off tabs can be seen. A lockbox may be used by the Issuing Authority or Service Supervisor. The two types of lockboxes used in this instruction are the Issuing Authority's lockbox and a satellite (see next page) lockbox.

LOCKOUT DEVICE - A device that utilizes a positive means such as a red lock (and other mechanical devices such as a chain, hasp, or bar secured by a red lock) to secure an energy-isolating device in a safe position. All locks used for lockout devices shall be substantial, and shall maintain the capability of withstanding the environment in which exposed. Red locks shall be used for personnel protection and not for any other purpose.

LOCKOUT/TAGOUT PERMIT INDEX - A listing of active lockout/tagout permits maintained in the lockout/tagout logbook, (and single source tags).

LOCKOUT/TAGOUT PERMIT LOGBOOK - The original lockout/tagout permits are maintained in a loose-leaf binder, which remains under the control of the Issuing Authority.

MODIFICATION - A means by which lockout/tagout permit conditions can be changed for the purpose of adding or removing isolation point(s) or changing the scope of work identified on the permit.

PERSONAL LOCKS - Red locks used by Authorized Employees to overlock energy isolation points or lockboxes to provide personal assurance that the system or energy isolation point is under their control during servicing, maintenance or construction. Personal locks shall be identified with the employee's name and badge number.

POSITIVE PROTECTION - Removal of a circuit element or equipment component, inserting blanks or blocks, double blocking, double block and bleed, or other means that will physically isolate the hazardous energy source. The need for positive protection shall be based upon the degree of hazard to be encountered. The seriousness of the hazard and appropriate protective measures shall be determined by the Issuing Authority, Service Supervisor, and Authorized Employee, through job hazard analysis, checklists, operator aids, or other means to evaluate the degree of hazard.

Subject: Lockout/Tagout for Personnel Protection

APPENDIX A (cont.)**Page 3 of 3**

SATELLITE LOCKBOX: A secondary lockbox to which an Authorized Employee(s) affixes his/her personal lock. A satellite lockbox may be used to hold the key from (1) a single source lockout device, (2) a department lock which was placed on an Issuing Authority's lockbox, or (3) a department lock which was placed on another satellite lockbox. The application of an Authorized Employee's personal lock shall ensure that the individual is protected from the unexpected release of hazardous energy. The Issuing Authority or Service Supervisor, during the initial walkdown (see Appendix O), determines the need for a satellite lockbox.

SERVICE SUPERVISOR - Supervises the employee(s) working under the protection of lockout/tagout. Qualifications include completion of lockout/tagout training and an understanding about how to confirm isolation. In those areas where multiple Service Supervisors have been appointed, such as shift supervisors, the Service Supervisor on duty shall have the authority to authorize the release of permits and the removal of department locks which were issued by other Service Supervisors in that position. Construction management will designate construction Service Supervisors by name, who will be responsible for initiating lockout/tagout of facility-managed equipment or systems for construction and accepting lockout/tagout protection provided by the Issuing Authority.

SUPPORT PERSONNEL - Technical/professional support staff (e.g., IH/Radcon technicians, engineers, equipment inspectors, etc.) that have received Service Supervisor training and are required to work under the protection of a lockout/tagout, permitted or single source. Support personnel who have received Service Supervisor training may perform the requirements of the Service Supervisor in addition to the Authorized Employee requirements.

SYSTEM LOCKS – Red locks assigned to an Issuing Authority or department that are used to control the initial isolation of control points and lockboxes under the control of the Issuing Authority. Each lock or series of locks will be controlled by a single, unique key under the control of the Issuing Authority, or in a lockbox. The locks shall be identified with a system identifier (i.e., S1-1, S1-2, etc.) and the department or division name and/or number.

TAG (DANGER) – DO NOT OPERATE TAG – “DANGER – DO NOT OPERATE” tags, in Appendix I it is used to inform personnel that tagged equipment is not to be operated and shall be the only tag used for tagout for personnel protection. When used, a tag is to be used in conjunction with a lockout lock. If an energy-isolating device is not lockable and only a tag is used, additional positive protection is required. An attachment device shall be similar in general design and basic characteristics equivalent to a one-piece, environmentally tolerant nylon cable tie. It shall be a non-reusable, attachable by hand, self-locking and non-releasable device with a minimum unlocking strength of not less than 50 pounds.

TEMPORARY SUSPENSION - A means by which lockout/tagout conditions can be temporarily suspended (removed) for the purpose of testing/adjusting, inspecting, analyzing, and trouble shooting. Temporary suspension can also be used as necessary to confirm isolation. A temporary suspension is not to be used to return equipment to operation, which must be done with a modification or release. See Appendix F.

WALKDOWN - A process used to identify the hazardous energy sources of equipment or systems, determine isolation points and controls, and positive protection necessary to protect personnel. The Issuing Authority is responsible for ensuring that an adequate walkdown is conducted.

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX B
INTERFACING WITH BWXT Y-12, DOE PRIME CONTRACTORS AND/OR SUBCONTRACTORS
Page 1 of 1

The following requirements apply to BWXT Y-12 subcontract work on BWXT Y-12 equipment. Subcontractors must submit their safety and health plans (including lockout/tagout program/procedures) for evaluation by the BWXT Y-12 Safety Department prior to starting. Subcontractors who do not have an approved lockout/tagout program will be required to follow this instruction. BWXT Y-12 and the subcontractor shall inform each other of changes to their respective lockout/tagout program.

- The BWXT Y-12 Safety Department will document interface requirements during review of the request for procurement action under Y73-164PD, *Service Subcontract Safety and Health Management Program* and distribute the requirements to the requestor of the subcontract.
- The subcontract requestor shall ensure interface requirements identified by the BWXT Y-12 Safety Department are included in the request for procurement action.
- The BWXT Y-12 contract requestor is responsible for notifying the Issuing Authority of lockout/tagout requirements in the contract.
- A BWXT Y-12 Issuing Authority, must provide a lockout/tagout permit in accordance with Appendix D or N for **all** needed energy isolations (lockout/tagouts), including single source.
- Lockout/tagout of the equipment/system shall be performed and confirmed by BWXT Y-12 personnel prior to releasing the equipment to the DOE prime contractor or subcontractor.
- The BWXT Y-12 Issuing Authority/requestor will inform affected employees of pertinent information pertaining to the DOE prime contractor or subcontractor's lockout/tagout program/procedure.
- A subcontractor representative shall sign the lockout/tagout permit as the Service Supervisor accepting the protection and must overlock at each isolation point or at a controlling lockbox.
- Subcontractor personnel working under the protection of the BWXT Y-12 lockout/tagout shall be instructed in their interface responsibilities as specified in Y73-164PD.
- Subcontractors will follow their own procedure during servicing and maintenance activities.
- Lockout/tagout permit modification, temporary suspension, and release of permit protection will be handled in accordance with Appendix E, F, and G of this instruction. A subcontractor representative will sign the lockout/tagout permit as a Service Supervisor.
- It is recognized that new equipment and circuits installed by service subcontract personnel are **not** BWXT Y-12-controlled until ownership is formally relinquished to the BWXT Y-12 owner/operator. Until formally turned over, such new equipment and circuits are controlled by the DOE prime contractor or subcontractor's direct implementation of their own lockout/tagout procedure. (In such instances, this instruction is not applicable.) Where there is a designated boundary, BWXT Y-12 will control the isolation device.

The following requirements apply to construction-managed subcontractor(s) for work performed by construction subcontractors.

- The construction Service Supervisor will coordinate the lockout/tagout in accordance with Appendix D.
- The construction Service Supervisor will ensure the lockout/tagout of the equipment/system is performed and confirmed by BWXT Y-12 personnel prior to the subcontractor performing work.
- The construction Service Supervisor will ensure that BWXT Y-12 affected employee(s) are informed of pertinent information pertaining to the subcontractor's lockout/tagout program/procedure.
- A subcontractor representative must overlock on the construction satellite lockbox.
- The construction Service Supervisor shall instruct the subcontractor working under the protection of the BWXT Y-12 lockout/tagout of their interface responsibilities as stated in the general terms and conditions statement.
- The subcontractors will follow their own procedure during construction activities. Construction subcontractors who do not have a lockout/tagout program will be required to follow this instruction.

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX C
LOCKOUT/TAGOUT - SINGLE SOURCE
 Page 1 of 3

Table 1
Single Source Lockout Criteria
 UCN-20799

LOCKOUT/TAGOUT
SINGLE SOURCE CRITERIA

DOES WORK MEET THIS CRITERIA ?	YES	NO
The machine or equipment has no stored or residual energy or the potential for reaccumulation of stored energy after shutdown, which could endanger employees. 1. <i>(NOTE: Residual/stored energy [e.g., capacitors, pressurized lines/vessels/systems/ equipment, flywheels] which will be released and has no potential for reaccumulation meets these criteria.)</i>	<input type="checkbox"/>	<input type="checkbox"/>
The machine or equipment has a single hazardous energy source, which is lockable and 2. can be readily identified and isolated, and a single lockout device will achieve a locked-out condition.	<input type="checkbox"/>	<input type="checkbox"/>
The isolation and locking out of that energy source will de-energize and deactivate the 3. machine or equipment.	<input type="checkbox"/>	<input type="checkbox"/>
The lockout device will be under the exclusive control of the Authorized Employee(s) 4. performing the servicing, maintenance, or construction.	<input type="checkbox"/>	<input type="checkbox"/>
The servicing, maintenance, or construction does not create hazards for other 5. employees.	<input type="checkbox"/>	<input type="checkbox"/>
Based on the Authorized Employees knowledge, there are no known accidents involving 6. the unexpected activation or reenergization of the machine or equipment during servicing, maintenance, or construction.	<input type="checkbox"/>	<input type="checkbox"/>
The isolation does not disable equipment or systems necessary for employee safety and 7. health, or essential operations.	<input type="checkbox"/>	<input type="checkbox"/>
8. The equipment/system being locked out does not require independent verification.	<input type="checkbox"/>	<input type="checkbox"/>
EQUIPMENT IDENTIFIER(S) (IDENTIFY THE EQUIPMENT NUMBER, MJR NUMBER OR STANDING WORK PACKAGE NUMBER, OR OTHER EQUIPMENT IDENTIFIER(S) SUCH AS VALVE OR DISCONNECT ID.)		

INSTRUCTIONS

This checklist is to be completed by the Issuing Authority or Service Supervisor(s), or both. Either the Issuing Authority, the Service Supervisor or both can sign the form. A single source lockout may be performed if all answers are YES. Place the completed form in the maintenance or servicing work package. If any answer is NO, perform work under a lockout/tagout permit or develop an equipment/job specific lockout/tagout permit.

REVIEWED/ APPROVED BY	SIGNATURE	DATE

Subject: Lockout/Tagout for Personnel Protection

APPENDIX C (cont.)

Page 2 of 3

Table 2
Performing a Single Source Lockout

Step #	Resp. Person	Steps to perform work under a single-source lockout	Completed?	
			YES	N/A
1.	IA	Ensure a walkdown is completed in accordance with Appendix O, to verify that work meets the criteria of the single source Criteria form.		
2.	IA, SS, or both	<ul style="list-style-type: none"> Complete the criteria form, ensuring each block (1-8) can be marked "YES". Complete the equipment identifier section to identify the equipment control point or work package associated with the work to be done. Sign (reviewed/approved) and date the form. NOTE: The form must have a least one (1) signature. 		
3.	IA or SS	Ensure Affected Employees are notified of planned lockout application.		
4.	IA	Prepare equipment for lockout/tagout by performing or directing shutdown, if necessary.		
5.	SS	Ensure current training of personnel assigned to perform work as an "Authorized Employee."		
6.	AE	Deactivate or de-energize equipment.		
7.	AE	Ensure application of personal lockout device to the isolation point. (Step 8 may be performed prior to Step 7 if isolation can still be confirmed with lockout device in place.)		
NOTE: If needed, the isolation point can be locked with a department or system lock issued by the Service Supervisor or Issuing Authority, the key placed in a satellite lockbox, and the Authorized Employee(s) apply personal locks to satellite lockbox.				
8.	AE	Confirm isolation/de-energization of equipment. (NOTE: Additional Authorized Employees reporting to a job have the option to confirm protection or review energy isolation point before applying their personal locks. On a job already in progress, visual confirmation may be the only means available.)		
9.	AE	Perform servicing, maintenance or construction.		
NOTE: IF work is completed before the end of the shift, proceed to Step 14 of this Appendix. IF work will continue beyond the worker(s) shift, complete steps 10-13 below OR issue a lockout/tagout permit in accordance with Appendix D. There is no time restriction for a single source lockout. The equipment may be placed in a safe condition by direction of the Issuing Authority and the lockout protection removed in accordance with Steps 14 through 19.				
10.	AE	Notify Service Supervisor and/or Issuing Authority if work continues beyond shift.		
11.	IA	Initiate a "Danger – Do Not Operate" tags (UCN – 17328) for the isolation point and log it in the lockout/tagout permit index. (NOTE: Enter a "Single Source" in the permit index in place of the "Permit No.")		

Subject: Lockout/Tagout for Personnel Protection

APPENDIX C (cont.)

Page 3 of 3

Table 2
Performing a Single Source Lockout (cont.)

Step #	Resp. Person	Steps to perform work under a single-source lockout, cont.	Completed?	
			YES	NO
12.	IA	Provide the following information on the DANGER - DO NOT OPERATE TAG (UCN-17328): NOTE: Do NOT remove tear off tab when hanging tag on a single source lockout. ISSUING AUTHORITY: Place name on tag signifying whom to contact with questions DEPT. NO.: Department number of the Issuing Authority. DEVICE IDENT.: Name and number of the isolation point to which the tag is applied (if needed). Provide unique description if device number is not available. DEVICE POSITION: Describe the position of the isolation point ("valve open," "valve closed," etc.) DATE: Date the Issuing Authority placed information on the tag. TAG NO.: Place "Single Source" as the tag number. TAG NO.: (On the tear-off tab) Same as assigned above. DEVICE IDENT.: (On the tear-off tab) Same name/number (or description) as assigned above.		
13.	IA, AE	Ensure the isolation point is controlled with lockout device. (<i>NOTE: May EITHER use an Authorized Employee's lock OR a department or system lock.</i>)		
Releasing a Single Source Lockout				
14.	AE	Before removing lockout/tagout protection, ensure that: (1) the work area has been cleared of tools and materials; (2) all personnel are safely positioned; and (3) the equipment is safe to return to operation.		
15.	AE	Remove lock(s) upon completion of work and remove tag with last lock if applicable. Locks may only be removed by the Authorized Employee (or under their direct supervision). If employee is not available, remove lock in accordance with Appendix H.		
16.	IA SS	The Issuing Authority and Service Supervisor will remove system and/or department lock, if used.		
17.	AE	Notify Issuing Authority and/or Service Supervisor that servicing, maintenance and construction is complete and that the lock(s) have been removed (and tag if applicable).		
18.	SS	Ensure the Issuing Authority has been notified.		
19.	IA	Notify Affected Employees of lockout removal (close out permit index, if applicable.)		
20.	IA	Authorize equipment to be returned to service, as necessary.		

IA = Issuing Authority

SS = Service Supervisor

AE = Authorized Employee(s)

Subject: Lockout/Tagout for Personnel Protection

APPENDIX D
LOCKOUT/TAGOUT - PERMITTED
 Page 1 of 4

Table 1
Issuing Authority Responsibilities

Step #	Required Actions for Issuing Authorities	Completed?	
		YES	N/A
1.	Obtain the expertise necessary to evaluate the hazardous energy sources present, to identify the necessary isolation points, and to complete lockout/tagout permit (UCN-17327). See Appendix J.		
2.	Perform walkdown (refer to Appendix O) or review of drawings, schematics, or other documents which are up-to-date, controlled, and reliable, with Service Supervisor(s) and Authorized Employees (if applicable) to determine the following: <ol style="list-style-type: none"> Machinery, equipment, and/or systems that must be isolated to safely perform the work; All hazardous energy sources and isolation points; The need for special actions to release and control stored energy; The need for special precautions during the isolation process, including sequencing of isolation; The need to specify the expected results for individual isolation points; The need for special tests to confirm isolation; The need for independent verification, which is required for Grade 1 or 2 systems or other equipment as deemed necessary by the Issuing Authority or equipment owner; The need for positive protection, double valving, or other special requirements; The need for one or more satellite lockboxes. 		
3.	Initiate lockout/tagout permit and list on the "Lockout/Tagout Permit Index" (UCN-20167) . See Appendix M. Obtain the next lockout permit number from the log index and copy to the lockout/tagout permit. Permit numbers are sequential numbers unique to a building or area. (The number can be developed by using year, building, unit and sequential number.)		
4.	Document the following isolation requirements on lockout/tagout permit (Blocks 1&2) and lockout/tagout permit continuation form (See Appendix K), if needed. <p>Block 1 EQUIPMENT/SYSTEM TO BE ISOLATED: Name & equipment number, if available, or a unique description of equipment being isolated. PURPOSE OF ISOLATION: Reason for the isolation. LOCATION: Provide location of equipment/system, as indicated. SPECIAL INSTRUCTIONS: Any special instructions, tests, precautions, equipment, protective measures, special tests or methods to confirm isolation, special steps required to release stored energy or description of removal conditions. This block is also used to document any modifications to the original lockout/tagout permit as specified in Appendix E, or to document locks removed under Appendix H of this instruction. PERFORMED BY: Date and signature of employee who performed any special tests, instructions, etc., noted in Special Instructions. INDEPENDENT VERIFICATION: Check appropriate box to indicate if independent verification is required.</p> <p>Block 2 COMPONENT ALIGNMENT LIST: TAG NO.: Enter the sequential tag number (i.e., 01, 02, 03) for each tag. (Number assigned by using lockout/tagout permit number followed by a dash then a sequential suffix for each tag.) DEVICE DESCRIPTION: State the name of the isolation point. LOCATION: State the exact location of the device (Bldg./Fl./Col.) REQUIRED POSITION: Specify the device position required to isolate energy from system. SEQ.: Provide a sequence for the isolation and locking/tagging, if required. ISOLATION AUTHORIZATION: Sign and date to authorize isolation of equipment/system.</p>		

Subject: Lockout/Tagout for Personnel Protection

APPENDIX D (cont.)

Page 2 of 4

Table 1
Issuing Authority Responsibilities (cont.)

Step #	Required Actions for Issuing Authorities, cont.	Completed?	
		YES	N/A
5.	Provide the following information on the DANGER - DO NOT OPERATE TAG (UCN-17328): ISSUING AUTHORITY: Name of Issuing Authority signifying whom to contact with questions. DEPT. NO.: Department number of the Issuing Authority. DEVICE IDENTIFICATION: Name and number of the isolation point to which the tag is applied, if needed. Provide unique description if device number is not available. DEVICE POSITION: Describe the position of the isolation point ("valve open," "valve closed," etc.) DATE: Date the Issuing Authority placed information on the tag. TAG NO.: The number of the tag. Each tag shall have a unique number assigned by using the lockout/tagout permit number followed by a dash then a sequential suffix for each tag. (For example, XXXX-YY, where "XXXX" is the lockout/tagout permit number and "YY" is the tag suffix.) TAG NO.: (On the tear-off tab.) Same number as assigned above. DEVICE IDENTIFICATION: (On the tear-off tab.) Same name/number (or description) as assigned above.		
6.	Notify Affected Employees of planned lockout/tagout.		
7.	Prepare systems or equipment for lockout/tagout by performing or directing shutdown, if necessary.		
8.	Ensure current training of personnel assigned to perform work as an "Authorized Employee."		
9.	Have Authorized Employee(s): a. Isolate equipment as required by Block 2 of lockout/tagout permit; b. Confirm isolation of all hazardous energy sources; c. Apply system locking device and/or "Danger-Do Not Operate" tags (Step 9.c may be performed prior to Step 9.b if isolation can still be confirmed with lockout device in place); d. Document equipment isolation by initialing and placing badge number in Block 3 of lockout/tagout permit; NOTE: Initial Block 3 after confirmation of equipment isolation has occurred; e. Return keys and tear-off tabs to Issuing Authority		
10.	Place keys and tear off tabs in lockbox and lock the lockbox with system or department lock.		
11.	Have an independent Authorized Employee perform independent verification, if required from Step 4 above, and document by initialing and placing badge number in Block 3 of lockout/tagout permit.		
12.	Ensure all prior steps are completed, sign the lockout/tagout permit (Block 4), <u>only</u> after confirmation of isolation of <u>all</u> energy sources. NOTE: If hazardous energy is discovered to be a potential threat to workers during the performance of work, safely STOP WORK and notify the Operations Manager or Building Manager.		
13.	If lockout/tagout is being applied for servicing, maintenance or construction activities, notify the maintenance/construction Service Supervisor(s)/ that protection is in place. Obtain their signature, badge number, and date in Block 5 that signifies that they accept the protection identified in Block 2.		
14.	Place the original lockout/tagout permit in the permit logbook.		

Subject: Lockout/Tagout for Personnel Protection

APPENDIX D (cont.)

Page 3 of 4

Table 1
Issuing Authority Responsibilities (cont.)

Step #	Required Actions for Issuing Authority Responsibilities, cont.	Completed?	
		YES	N/A
15.	Place a copy of the lockout/tagout permit (marked "COPY") with the lockbox.		
16.	If lockout/tagout is being applied for servicing, maintenance or construction activities provide the Service Supervisor(s) with a copy of the lockout/tagout permit (marked "COPY"), if requested.		
17.	If a satellite lockbox is being used, provide the Service Supervisor(s) with a copy of the lockout/tagout permit (marked "COPY") to be placed with the satellite lockbox.		

Table 2
Service Supervisor Responsibilities

NOTE: For construction activities the construction Service Supervisor may delegate steps 4, 5, 7 and 8 to the Construction-Requesting Supervisor.

Step #	Required Actions for Service Supervisors	Completed?	
		YES	N/A
1.	Assist, when requested, with evaluating hazardous energy sources and isolation points.		
2.	Ensure the provided lockout/tagout protection is adequate and confirmation of isolation of hazardous energy is completed prior to signing acceptance of protection.		
3.	Accept protection by signing Block 5 of the original lockout/tagout permit, enter badge number, and document the date.		
4.	Ensure current training of personnel assigned to perform work as an "Authorized Employee."		
5.	Inform Authorized Employees of the boundaries and limits of protection.		
6.	If a satellite lockbox is used, apply a department lock to the Issuing Authority's lockbox, and place the key in the satellite lockbox and a COPY of the lockout/tagout permit outside the satellite lockbox.		
7.	Assure Authorized Employees confirm isolation and ensure application of personal locks to lockbox or satellite lockbox prior to beginning work.		
NOTE: If hazardous energy is discovered to be a potential threat to workers during the performance of work, safely STOP WORK and notify the Issuing Authority.			
8.	Authorize personnel to begin servicing, maintenance and construction to system/equipment.		

Table 3
Construction Requesting Supervisor Responsibilities

Step #	Required Actions for Requesting Supervisor	Completed?	
		Yes	No
1.	Ensure the provided lockout/tagout protection is adequate and confirmation of isolation is complete.		
2.	Place a department lock on the construction satellite lockbox.		
3.	Ensure current training of personnel assigned to perform work as a construction Authorized Employee.		
4.	Inform construction Authorized Employees of the boundaries and limits of protection.		
5.	Ensure construction Authorized Employees apply personal locks to the construction satellite lockbox.		
NOTE: Steps 3 through 5 may be delegated to craft Supervision trained to work under lockout/tagout protection however, the Requesting Supervisor retains the responsibility for ensuring these items are performed.			

Subject: Lockout/Tagout for Personnel Protection

APPENDIX D (cont.)

Page 4 of 4

Table 4
Authorized Employee Responsibilities

Step #	Required Actions for Authorized Employees	Completed?	
		YES	N/A
1.	Assist with evaluating hazardous energy sources and isolation points.		
2.	Assist the Issuing Authority in application of lockout/tagout permit, when requested, by: <ul style="list-style-type: none"> a. Isolating equipment as required by Block 2 of lockout/tagout permit. b. Confirming isolation of all hazardous energy sources; c. Applying system locking device(s) and/or "Danger-Do Not Operate" tags(s) (Step 2.c may be performed prior to Step 2.b if isolation can still be confirmed with lockout device in place); d. Document equipment isolation by initialing and placing badge number in Block 3 of lockout/tagout permit; e. Returning keys and tear-off tabs to Issuing Authority; and/or f. Performing an Independent Verification, if requested, and documenting by initialing and placing badge number in Block 3 of permit. 		
3.	Confirm isolation/de-energization of equipment prior to beginning work. <i>NOTE 1: Additional Authorized Employees reporting to a job have the option to confirm protection or review energy isolation points before applying their personal locks.</i> <i>NOTE 2: Extreme Caution MUST be used when confirming protection. Personnel are never allowed to override "Danger - Do Not Operate" tags during confirmation of lockout/tagout. On a job already in progress, visual confirmation may be the only means available.</i>		
NOTE: If hazardous energy is discovered to be a potential threat to workers during the performance of work, safely STOP WORK and notify the Service Supervisor.			
4.	Apply personal lock to lockbox (or satellite lockbox) prior to beginning work.		

Subject: Lockout/Tagout for Personnel Protection

APPENDIX E
MODIFYING A LOCKOUT/TAGOUT PERMIT
Page 1 of 2

The following steps shall be completed when there is a need to modify an existing lockout/tagout permit to add or delete an isolation point(s) or to change scope (purpose of isolation) of the lockout/tagout permit.

Step #	Resp. Person	Steps to Modify a Lockout/Tagout Permit	Completed?	
			YES	N/A
1.	AE, SS	Notify the Issuing Authority of need to modify the lockout/tagout permit, add or eliminate an isolation point(s) or change scope of the lockout/tagout permit.		
2.	IA	Perform a walkdown (refer to Appendix O) with the Service Supervisors and other necessary expertise to obtain their concurrence to modifications to the lockout/tagout permit.		
3.	SS, RS, AE	Stop work associated with lockout/tagout permit being modified and remove department and/or personal locks from lockbox. If using a satellite lockbox, return copy of lockout/tagout permit to Issuing Authority.		
4.	IA	Document the reason for the modification and changes to be made (i.e., addition or deletion of isolation points, change purpose) in the "Special Instructions" section of the original lockout/tagout permit.		
5.	IA	Document modification to isolation (as applicable): a. To add control points <ul style="list-style-type: none"> Document component alignment in Block 2 of the lockout/tagout permit (refer to App. D, Table 1, Step 4), Provide information on "Danger-Do Not Operate" tags (refer to App. D, Table 1, Step 5), b. To remove control points <ul style="list-style-type: none"> Document required position and sequence in Block 8 of the lockout/tagout permit. (Note: A lockout/tagout permit continuation form may be utilized if needed.)		
6.	IA	Notify Affected Employees of modifications being made.		
7.	SS	Release protection of lockout/tagout permit by signing Block 6, enter badge number and document the date.		
NOTE: Prior to release of protection, review "Special Conditions" in Block 1 and comply, if applicable				
8.	IA	Remove Issuing Authority's lock from lockbox.		
9.	IA	Direct Authorized Employee(s) to apply/remove locks and tags per Step 5 above. (Note: Ensure current training of personnel assigned to perform work as an "Authorized Employee.")		
10.	AE	IF applying additional locks/tags, THEN a. Isolate equipment as required by Block 2 of lockout/tagout permit; b. Confirm isolation of hazardous energy sources; c. Apply system locking device and/or "Danger-Do Not Operate" tags (Step 10.c may be performed prior to Step 10.b if isolation can still be confirmed with lockout device in place); d. Document equipment isolation by initialing and placing badge number in Block 3 of lockout/tagout permit; and e. Return keys and tear-off tabs to Issuing Authority		
		IF removing locks/tags, THEN Clear locks and tags, and reposition equipment at each isolation point in the following sequence. a. Match the tear-off tabs to tag(s); b. Remove system locks and tags from the isolation and control points; and c. Align the components to the required position listed in Block 8 of the lockout/tagout permit. d. Initial and place badge number in the "Removed By" column of Block 8 to document removal of lock(s) and tag(s) and repositioning of equipment. e. Return the systems locks, keys, and cleared "DANGER - DO NOT OPERATE" tags and associated tear-off tabs to the Issuing Authority.		

IA = Issuing Authority

SS = Service Supervisor

AE = Authorized Employee(s)

RS= Construction Requesting Supervisor

Subject: Lockout/Tagout for Personnel Protection

APPENDIX E (cont.)

Page 2 of 2

Step #	Resp. Person	Steps to Modify a Lockout/Tagout Permit, cont.	Completed ?	
			YES	N/A
11.	IA	If applicable, place keys and tear off tabs in lockbox and lock the lockbox with system or department lock.		
12.	IA, AE	Have an independent Authorized Employee perform Independent Verification if required. Authorized Employee document by initialing and placing badge number in Block 3 of lockout/tagout permit.		
13.	IA	Ensure all prior steps are completed and notify Service Supervisors, <u>only</u> after confirmation of isolation of <u>all</u> energy sources, that modifications have been made and system is safe to resume servicing, maintenance or construction activities.		
14.	IA	Modify "Special Conditions" in Block 1, if applicable.		
15.	SS, RS	Review the lockout/tagout permit to assure the protection provided is adequate.		
16.	SS	Accept protection by signing Block 5 of the original lockout/tagout permit, enter badge number, and document the date.		
17.	IA	Place copy of Modified lockout/tagout permit with the lockbox, place original in logbook.		
18.	IA	If lockout/tagout is being applied for servicing, maintenance or construction activities provide the Service Supervisor(s) with a copy of the Modified lockout/tagout permit (marked "COPY"), if requested. Also provide a copy to be placed with the satellite lockbox, if applicable.		
NOTE: For construction activities the construction Service Supervisor may delegate steps 19, 22 and 25 to the Construction-Requesting Supervisor.				
19.	SS	Ensure current training of personnel assigned to perform work as an "Authorized Employee."		
20.	SS	If satellite lockbox is used, apply department lock to Issuing Authority lockbox. Place key in satellite lockbox and a copy of the permit outside the satellite lockbox.		
21.	RS	Place a department lock on the construction satellite lockbox.		
22.	SS	Assure Authorized Employees confirm isolation and apply personal locks to lockbox or satellite lockbox prior to beginning work.		
23.	AE	Confirm adequate protection is provided by the lockout/tagout.		
24.	AE	Reapply personal lockout devices.		
25.	SS	Authorize personnel to begin servicing, maintenance and construction to system/equipment.		

IA = Issuing Authority

SS = Service Supervisor

AE = Authorized Employee(s)

RS= Construction Requesting Supervisor

Subject: Lockout/Tagout for Personnel Protection

APPENDIX F
TEMPORARILY SUSPENDING A LOCKOUT/TAGOUT PERMIT
Page 1 of 2

The following steps shall be completed when there is a need to temporarily suspend lockout/tagout protection for tests, adjustments, inspections, equipment analysis, trouble shooting, or to confirm isolation. In the event more than one temporary suspension is needed, the temporary suspension form may be reused by reinitialing signature blocks. Temporary suspension is not to be used to return equipment to operation which must be done with a modification or release.

Step #	Resp. Person	Required Actions for Temporary Suspension	Completed?	
			YES	N/A
1.	AE	Remove all personal locks from lockbox(es) and nonessential tools and materials from the affected equipment.		
2.	SS, RS	Ensure all personnel are safely positioned. Remove department locks from satellite lockboxes, if used.		
3.	IA	Document the need for a temporary suspension by marking "YES" on Block 9 of UCN-17327, "Lockout/Tagout Permit."		
4.	IA	Initiate a temporary suspension form, UCN-20271. See Appendix L.		
5.	IA	Specify purpose of the temporary suspension in Block 1 of the temporary suspension form and record the specific actions to be taken.		
6.	IA	List any special instructions, precautions; equipment; protective measures; methods to implement the temporary suspension; special tests required to confirm isolation; or special steps required to release stored energy in Block 2 of temporary suspension form. (Note: Review "Special Conditions" in Block 1 of the lockout/tagout permit to assist in completing this step.)		
7.	SS	Initial and provide badge number and date in Block 3 of the temporary suspension form to release permit for the temporary suspension. (Note: Each Service Supervisor currently signed on the permit must initial and date and provide badge Number.) Remove department lock from lockboxes.		
8.	IA	Provides the following information in Block 4 for each isolation point undergoing a temporary suspension: TAG NO.: Indicate the DANGER - DO NOT OPERATE tags number DEVICE DESCRIPTION: State the name of the isolation point. REQUIRED POSITION: Note the required position of the device after locks/tags are removed. SEQ: If required, provide a sequence for the removal of lockout/tagout devices.		
9.	IA	Specify whether Independent Verification is required by checking the appropriate box in Block 5 of the temporary suspension form.		
10.	IA	Authorize removal of system locks/tags by signing and dating and placing badge number in Block 6 of the temporary suspension form.		
11.	IA	Remove the Issuing Authority's lock from lockbox.		
12.	IA	Direct Authorized Employee to perform a temporary suspension. (Note: Ensure current training of personnel assigned to perform work as an "Authorized Employee.")		
13.	AE	Complete the following: a. Matches the tear off tabs to tags; b. Removes the system locks/tags specified in Block 4; c. Positions the device(s) in the required position; d. Initial and places badge number in Block 7, "Lock/Tag Removal Record;" and e. Returns locks, keys, tags, and tear off tabs to the Issuing Authority.		
14.	IA,AE	Assign an Authorized Employee to perform an Independent Verification if required in Block 5 of temporary suspension form. Authorized Employee document by initialing and placing badge number in Block 7.		

IA = Issuing Authority

SS = Service Supervisor

AE = Authorized Employee(s)

RS = Construction Requesting Supervisor

Subject: Lockout/Tagout for Personnel Protection

APPENDIX F (cont.)

Page 2 of 2

Step #	Resp Person	Required Actions for Temporarily Suspension	Completed?	
			YES	N/A
15.	IA	Complete the following: a. Notifies Affected Employees that a temporary suspension is in place and that lockout/tagout devices have been temporarily removed (if applicable); b. Places a red-colored temporary suspension tag placard (See Appendix L) in (or attaches it to) the Issuing Authority's lockbox, and satellite lockbox(es) if used, to notify personnel of the temporary suspension; and c. Maintains "Danger – Do Not Operate" tags(s) in their possession until reinstalled or destroyed if reapplication is not needed.		
16.	AE	Perform activities identified in Block 2 of temporary suspension form		
NOTE: If tests/inspections indicate lockout/tagout is no longer needed, GO TO Appendix G, Step 4 to release the lockout/tagout permit. If the lockout/tagout devices must be reinstalled, proceed with Steps 17 through 32 of this Appendix.				
17.	IA	Provide the following information in Block 8 of the temporary suspension form: REQUIRED POSITION: Specify the device position required to isolate the energy from system. SEQ: If required, provide a sequence for the isolation and locking/tagging.		
18.	IA	Initial and place badge number in Block 8 of temporary suspension form to authorize the isolation of system and repositioning of locks/tags as specified in this block.		
19.	IA	Direct Authorized Employee to reapply system locks/tags. (Note: Ensure current training of personnel assigned to perform work as an "Authorized Employee.")		
20.	AE	Perform the following steps after obtaining authorization from the Issuing Authority. a. Isolate equipment as required by Block 8 of temporary suspension form; b. Confirm isolation of all hazardous energy; c. Apply system locking device and/or "Danger-Do Not Operate" tags (Step 20.c may be performed prior to Step 20.b if isolation can be confirmed with lockout device in place); d. Document equipment isolation by initialing and placing badge number in Block 8 of temporary suspension form; and e. Return keys and tear-off tabs to Issuing Authority		
21.	IA	Remove red-colored temporary suspension tag(s) from all lockboxes.		
22.	IA	Place keys and tear off tabs in Issuing Authority's lockbox and lock the lockbox with system or department lock.		
23.	IA, AE	Have an independent Authorized Employee perform Independent Verification, if required from Block 5 of the temporary suspension form. Authorized Employee document by initialing and placing badge number in Block 8.		
24.	IA	Signs/provides badge number in Block 9 of the temporary suspension form, <u>only</u> after confirmation of isolation of <u>all</u> energy sources, to signify system is isolated and safe to perform work.		
25.	IA	Notify the Service Supervisor(s) that protection is in place.		
26.	SS	Review temporary suspension form to assure protection provided is adequate, and confirmation of isolation of all energy sources is complete.		
27.	SS	Initials/provides badge number in Block 10 of the temporary suspension form to accept the restored protection.		
28.	SS	If a satellite lockbox is used, apply a department lock to the Issuing Authority's lockbox, and the place key in the satellite lockbox and a COPY of the lockout/tagout permit with the satellite lockbox.		
29.	RS	Place a department lock on the construction satellite lockbox.		
30.	SS, RS	Ensure current training of personnel assigned to perform work as an "Authorized Employee."		
31.	AE	Confirm adequate protection is provided by the lockout/tagout.		
32.	AE	Reapply personal lockout devices to Issuing Authority's lockbox or satellite lockbox.		

IA = Issuing Authority

SS = Service Supervisor

AE = Authorized Employee(s)

RS = Construction Requesting Supervisor

Subject: Lockout/Tagout for Personnel Protection

APPENDIX G
RELEASING LOCKOUT/TAGOUT PERMIT
Page 1 of 1

Step #	Resp. Person	Steps to release a Lockout/Tagout Permit	Completed?	
			YES	N/A
1.	AE	Remove all tools and materials from the affected equipment.		
2.	SS, RS	Verify all personnel are safely positioned, that it is safe to remove all protection devices, and no uncontrolled hazards remain.		
3.	AE	Remove personal lock(s) from lockbox(es), to include any satellite lockbox(es).		
NOTE: If an individual is not available to remove his/her lock, see Appendix H, <i>Releasing Protection When Employee Unavailable</i> .				
4.	SS, RS	Remove department lock(s) from lockbox(es), to include any satellite lockbox(es).		
5.	SS	Sign, date and place badge number on the original lockout/tagout permit form in Block 6, "Permit Released By."		
6.	IA	Obtain the expertise necessary to evaluate equipment/system to assure it is safe to remove lockout/tagout. (Note: Prior to release of protection, review "Special Conditions" in Block 1 and comply, if applicable.)		
7.	IA	Complete the "Required Position," and "Sequence" columns (if required) of Block 8, "Isolation Removal Record." Note: For locks/tags removed during a temporary suspension and never replaced, write in "Removed By Temporary Suspension" in Block 8 of the lockout/tagout permit.		
8.	IA	Provide signature, badge number and date in Block 7 of lockout/tagout permit authorizing removal of lockout/tagout protection.		
9.	IA	Remove the Issuing Authority lock from lockbox.		
10.	IA	Notify Affected Employees of equipment or system being returned to service.		
11.	IA	Direct Authorized Employee to remove system locks/tags. (Note: Ensure current training of personnel assigned to perform work as an "Authorized Employee.")		
12.	AE	Clear locks and tags, and reposition equipment at each isolation point in the following sequence. a. Match the tear-off tabs to tag(s); b. Remove system locks/tags from the isolation and control points; and c. Align the components to the required position listed in Block 8 of the "Lockout/Tagout Permit."		
13.	AE	Initial and place badge number in the "Lock/Tag Removed By" column of Block 8 to document removal of lock(s) and tag(s) and repositioning of equipment.		
14.	AE	Return the systems locks, keys, and cleared "DANGER - DO NOT OPERATE" tags and associated tear-off tabs to the Issuing Authority.		
15.	IA	Dispose of the cleared DANGER - DO NOT OPERATE tags and tear-off tabs.		
16.	IA	Sign and place badge number in Block 10 of the original lockout/tagout permit documenting the date of closure.		
17.	IA	Enter date released on lockout/tagout permit index (See Appendix M.) and file permit in an inactive file for at least one (1) year after permit closure.		
18.	IA	Authorize equipment to be returned to service, as necessary.		

IA = Issuing Authority

SS = Service Supervisor

AE = Authorized Employee(s)

RS = Construction Requesting Supervisor

Subject: Lockout/Tagout for Personnel Protection

APPENDIX H
RELEASING PROTECTION WHEN EMPLOYEE UNAVAILABLE
Page 1 of 1

Step #	Resp. Person	Steps to Remove an Employee Lock(s)	Completed?
1.	IA, SS	Implement these steps in conjunction with removal requirements for single source lockout (Appendix C) or permitted lockout/tagout (Appendix G or Appendix N).	
2.	SS	Make all reasonable efforts to contact the employee who is unavailable and who has a personal lock that needs to be removed.	
3.	IA, SS	Notify the PSS that a personal lock of an employee that is not on site needs to be removed.	
4.	PSS	Verify through the Service Supervisor that the employee whose lock(s) is to be removed is not on site.	
5.	PSS	After verifying the employee's absence with the Service Supervisor, authorize lock to be removed.	
6.	IA	Document the action taken on the original lockout/tagout permit in the "Special Instructions" Block. (Not applicable for single source lockout.)	
7.	SS	Verify all personnel are safely positioned, that it is safe to remove all protection devices, and no uncontrolled hazards remain.	
8.	AE	Remove the unavailable employee's personal lock(s) as directed by the PSS.	
9.	SS	Ensure employee is informed that their personal lock(s) was removed when returning to work.	

IA = Issuing Authority

SS = Service Supervisor

AE = Authorized Employee(s)

Subject: Lockout/Tagout for Personnel Protection

APPENDIX I

Page 1 of 1

DANGER - DO NOT OPERATE TAG

UCN-17328

SAP Material No. 10-998-6640

[Go to AVIDPlus](#)

DANGER

Issuing Authority

Dept. No.

Device Identification

Device Position

Date

Tag No.

Tag No.

Device Identification

UCN-17328 (123 B-95)

FRONT

DANGER

**DO NOT
OPERATE**

**PERSONNEL
PROTECTION**

Lockout / Tagout
Tearoff Tab

UCN-17328 BACK

BACK

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX L
TEMPORARY SUSPENSION TAG AND FORM
Page 1 of 2

RED-COLORED TEMPORARY SUSPENSION TAG

UCN-20765



Subject: Lockout/Tagout for Personnel Protection

APPENDIX L (cont.)
Page 2 of 2

UCN-20271

LOCKOUT/TAGOUT TEMPORARY SUSPENSION										PERMIT NUMBER	
1. PURPOSE OF TEMPORARY SUSPENSION <input type="checkbox"/> TESTING <input type="checkbox"/> INSPECTION <input type="checkbox"/> ADJUSTMENT <input type="checkbox"/> CONFIRM ISOLATION <input type="checkbox"/> OTHER											
2. SPECIAL INSTRUCTIONS											
3. PERMIT RELEASED BY (SERVICE SUPERVISOR)											
SIGNATURE			BADGE NO.		DATE		SIGNATURE			BADGE NO. DATE	
6. LOCK/TAG REMOVAL AUTHORIZED (ISSUING AUTHORITY)											
SIGNATURE			BADGE NO.		DATE		SIGNATURE			BADGE NO. DATE	
4. LOCK/TAG REMOVAL				7. LOCK/TAG REMOVAL RECORD				8. LOCK/TAG REPLACEMENT			
TAG NO.	DEVICE DESCRIPTION	REQUIRED POSITION	Ø IN	REMOVED BY (Initial/Badge No.)	IND. VER. BY (Initial/Badge No.)	REQUIRED POSITION	Ø IN	REPLACEMENT AUTHORIZED (Issuing Authority Initial/Badge No.)	LOCK/TAG PLACED (Initial/Badge No.)	IND. VER. (Initial/Badge No.)	
5. INDEPENDENT VERIFICATION REQUIRED <input type="checkbox"/> YES <input type="checkbox"/> NO											
9. LOCKS AND/OR TAGS PLACED, SYSTEM(S) ISOLATED AND CONFIRMATION OF ISOLATION COMPLETED. (ISSUING AUTHORITY)											
SIGNATURE		DATE		SIGNATURE		DATE		SIGNATURE		DATE	
10. PROTECTION ACCEPTED BY (SERVICE SUPERVISOR)											
SIGNATURE		DATE		SIGNATURE		DATE		SIGNATURE		DATE	

IA = ISSUING AUTHORITY

SS = SERVICE SUPERVISOR

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX N
EQUIPMENT/JOB SPECIFIC LOCKOUT/TAGOUT PERMIT
Page 1 of 3

This appendix is a guideline for writing a job-specific or equipment-specific lockout/tagout permit. By incorporating the steps identified below, the equipment/job-specific lockout/tagout permit can be used to control potentially hazardous energy when employees are engaged in servicing, maintenance and construction activities. Equipment/job-specific lockout/tagout permits may be stand alone documents which specify the steps required for equipment isolation, or they may be incorporated into an operating or maintenance procedure or work instruction.

Note: Equipment/job-specific lockout/tagout permits shall be used in-hand.

A documented evaluation of each equipment/job-specific lockout/tagout permit shall be conducted by the responsible organization at least annually to ensure its effectiveness and to ensure applicable requirements are being followed. Equipment/job-specific lockout/tagout permits shall be revised whenever there is a change to the equipment/system that could impact its effectiveness.

Special Permit Title: Title should be descriptive of job.

Special Permit Number: A unique identifier, which ties back to the department, supplied and tracked by each organization.

Effective and Expiration Date: Identify an effective date and an expiration date which shall not exceed one year after the effective date.

Purpose and Scope: Clearly and specifically outline why the permit is needed, what task is to be performed, and where the permit is to be used.

Review/Approval: All equipment/job-specific lockout/tagout permits shall be reviewed and approved by the Issuing Authority, Service Supervisor(s) of affected craft(s), and the Industrial Safety Department prior to use. Additional reviews and signatures will be included when required.

Special Notes and Precautions: Provide special instructions necessary for the safe implementation of lockout/tagout. The following statement shall be included on all equipment/job-specific lockout/tagout permits:

Note: Prior to use of this permit, verify system configuration has not changed and permit is still valid for controlling hazardous energy source(s). In-hand use of this permit is required.

Isolation Instructions: This section shall include the specific steps for shutting down, isolating, blocking and securing the machines or equipment to control hazardous energy; specific steps for the placement, removal and transfer of lockout/tagout devices and the responsibility for them; and specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures. The performance steps shall be done in the following sequence. Additional steps should be incorporated as appropriate.

1. "Notification of Affected Employees" - Affected employees shall be notified prior to the application of lockout/tagout devices. This step should include who is responsible for notifying affected employees.
2. "Machine or equipment shutdown" - The machine or equipment shall be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage. This step should include or reference the shutdown process.

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX N (cont.)**Page 2 of 3**

3. "Energy Isolation" - This step should identify as specifically as possible each isolation point, the required position, and the order of operation, if applicable.
4. "Application of locks/tags" - This step should identify the process for application of locks and/or tags, information to be put on the tags, and the application of lockboxes, if used. Each employee performing work requires a red lock. A lock may be placed without a tag only under the following conditions:
 - a. Only one circuit or piece of equipment is de-energized,
 - b. The lockout period does not extend beyond the work shift, and
 - c. Employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with this instruction.
5. "Release of stored energy" - Following the application of lockout/tagout devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe. This step should identify any stored energy sources and the actions required to control them.
6. "Confirmation of Isolation" - Prior to starting work, the Authorized Employee(s) shall confirm that isolation and de-energization of the machine or equipment have been accomplished. This step should state how confirmation is to be conducted, (i.e., push start button, check for voltage, etc.).
7. "Independent Verification" - When working on a Grade 1 or 2 system or when required by the Issuing Authority, an independent verification shall be conducted to assure the lockout/tagout was performed appropriately. Include requirements for who should conduct and any documentation needed.
8. Perform authorized maintenance or servicing.
9. "Preparation to release lockout/tagout protection" - Before lockout/tagout devices are removed and energy is restored to the machine or equipment, the following conditions must be met:
 - a. The work area is free of nonessential items,
 - b. The machine or equipment components are operationally intact (safe to return to operation), and
 - c. All employees have been safely positioned or removed from the area.

This step should also include any requirements for a system or equipment evaluation (if needed) before removal of protection.
10. "Removal of lockout/tagout protection" - This step should identify the requirements for removing all lockout/tagout devices.
11. "Notification to affected employees" - Affected employees shall be notified of the lockout/tagout removal. This step should identify who is responsible for notifying the Affected Employees.
12. "Restart of equipment" - Equipment may be restarted and returned to operation. This step should reference or include any equipment restart process or requirements.

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX N (cont.)**Page 3 of 3****EQUIPMENT/JOB SPECIFIC LOCKOUT/TAGOUT PERMIT
(EXAMPLE)**

(Special Title)
(Special Permit Number)

Effective Date: _____

Expiration Date: _____

Purpose/Scope:**Reviews:**

Issuing Authority _____

Service Supervisor _____

Industrial Safety _____

Special Notes or Precautions: Note: Prior to use of this permit, verify system configuration has not changed and permit is still valid for controlling hazardous energy source(s). In-hand use of this permit is required.

Isolation Instructions: This section shall incorporate the Performance Steps 1 - 12 discussed above.

Subject:	Lockout/Tagout for Personnel Protection
----------	---

APPENDIX O
GUIDANCE FOR LOCKOUT/TAGOUT WALKDOWNS
Page 1 of 1

Purpose: This guidance is provided to ensure all necessary hazardous energy isolation points are identified. It is to be used to encourage a “questioning attitude” among walkdown team members as isolation points are determined. Especially in circumstances where work will be performed on equipment or systems which do not have an up-to-date equipment-specific lockout/tagout permit or procedure, or controlled drawings, it is essential that extra precautions be taken in the walkdown to increase confidence that all hazardous energy sources have been located and isolated.

Recommended Walkdown Team Composition:

Leader: Issuing Authority.

Members: Service Supervisor, Construction Requesting Supervisor, equipment owner, affected craft representative(s), and job planning representative.

Use: The Issuing Authority has the responsibility to ensure that an adequate walkdown, with appropriate team members, is **conducted to identify hazardous energy sources, determine isolation points, determine controls, determine methods to confirm isolation, and determine positive protection.** The walkdown is also used to determine the need for use of one or more satellite lockboxes. The following table presents several effective methods that can be used to increase confidence that all isolation points have been identified. For complex jobs involving multiple service locations, combinations of methods may be required to ensure complete isolation of all hazardous energy sources. For methods requiring an additional review, some examples of available resources which can be used to perform the review include: someone with system knowledge, someone with lockout/tagout requirements knowledge, an Operational Safety Board representative, an Environment, Safety and Health representative, a maintenance coordinator, or a shift technical advisor.

Walkdown Methods to Identify Lockout/Tagout Isolation Points
There is an up-to-date equipment-specific lockout/tagout permit or procedure or configuration controlled system drawings that can be used to establish isolation points. (Example: A controlled drawing in an Enriched Uranium Facility.)
There are no controlled system drawings, however, the system configuration can be physically traced to known boundary isolation points such that all isolation points can be identified. (Example: Piping can be traced back to a main header such that downstream isolation can be performed based on visibility and knowledge of the piping layout.)
There are major boundary isolation points that are under current configuration control or are known, and can be reasonably used to isolate the portion of the system to be worked. Major boundary isolation points are generally beyond the scope of the specific job to be performed, but encompass the affected equipment. (Example: isolating and discharging steam to a building at a main header to perform work in a section of the building.)
There are no controlled system drawings, however, based on available reference information, system knowledge, accessibility/visibility of components, and verification of the absence of hazardous energy, the system configuration can be identified such that all isolation points can be readily determined. If this method is used, the Issuing Authority must require an additional review. It is recommended that a product of this method include an equipment-specific lockout/tagout permit or procedure.
<p>Accurate system configuration can not be fully determined. In this case, isolation points are identified utilizing personnel knowledge and the best available reference information. In addition to the lockout/tagout of the identified isolation points, the Issuing Authority must require an additional review, AND one or both of the following control methods are required:</p> <p>A) Engineered controls (physical intervention) are used to provide additional protection. Physical interventions must be controlled under the lockout/tagout permit. (Examples: opening drain valves, breaking a connection, or installing grounds.)</p> <p>B) PPE and work control methods are used for protecting from a potentially “live” or hazardous system. See Y73-116INS, <i>Personal Protective Equipment</i>, for additional information on PPE equipment selection, use, and maintenance.</p>

Subject: Lockout/Tagout for Personnel Protection
--

APPENDIX P
WORKING FOR OTHER COMPANIES/CONTRACTORS
Page 1 of 1

The following requirements apply to BWXT Y-12 personnel performing work for other companies/contractors that requires the use of lockout/tagout.

1. IF the contractor accepts implementation of BWXT Y-12 instruction for lockout/tagout activities, THEN,
 - The Service Supervisor will assume all Issuing Authority responsibilities.
 - The Service Supervisor will act as the Issuing Authority in determining whether the work activities require a single source or permitted lockout/tagout.
 - BWXT Y-12 Authorized Employees will comply with all requirements of this instruction.
2. IF BWXT Y-12 is required to use the contractor's lockout/tagout procedure, THEN,
 - The BWXT Y-12 Service Supervisor must be trained to the contractor's procedure or made aware of the differences between this instruction and the contractor's procedure to include any restrictions or prohibitions.
 - The Service Supervisor will assume all Issuing Authority responsibilities.
 - The Service Supervisor must brief the BWXT Y-12 work crew (Authorized Employees) on the contractor's program prior to initiation of lockout/tagout activities.
 - The Service Supervisor will act as the Issuing Authority in determining whether the work activity requires a single source or permitted lockout/tagout.
 - The Service Supervisor may set up a satellite lockbox. If a satellite lockbox is used, the Service Supervisor will place one or more department locks on the company's/contractor's control points or lockbox and put the keys in the satellite lockbox. The BWXT Y-12 Authorized Employees will use the satellite lockbox to overlock the department lock key(s).
 - BWXT Y-12 Authorized Employees will comply with all requirements of this instruction.
 - BWXT Y-12 personnel will confirm isolation of the hazardous energy prior to accepting the equipment and performing work.